WHAT IS CLAIMED IS:

1. A method to measure a perceived bit rate between a client and a server, the method comprising:

(1) measuring a number of bits transmitted between the client and the server over a time period, wherein:

the number of bits measured are included only within at least one transaction unit, and

the time period is a sum of time durations of each of the at least one transaction unit.

2. The method of claim 1, wherein:

the number of bits measured are included in a plurality of transaction units, and

the time period is the sum of the time durations of each of the plurality of transaction units.

3. The method of claim 1, wherein act (1) is performed on the server and a respective one of the time durations is an amount of time from a beginning of a transmission, from the server, of a first response within the respective transaction unit to a time of a receipt, by the server, of a last acknowledgement within the respective transaction unit.

4. The method of claim 1, further comprising:

(2) adapting, by the server, of content to be sent to the client based on a measurement determined during act (1).

5. The method of claim 4 wherein act (2) comprises adapting a type of the content to be sent to the client based on the measurement determined during act (1).

6. The method of claim 5, wherein act (2) further comprises adapting a resolution of an image to be sent to the client.

7. The method of claim 1, wherein act (1) is performed by the server according to a formula:

$$BR(i)=\frac{1}{T'}\left[\left(\sum_{j=0}^{N(i)-1}P_u(i-j)\right)+\left(P_u(i-N(i))\cdot\left[\frac{T'-\sum_{j=0}^{N(i)-1}\Delta T_u(i-j)}{\Delta T_u(i-N(i))}\right]\right)\right],$$

where BR(i) is a bit rate at an index time i, $T'=Min\left(T,\sum_{j=0}^{i}\Delta T_u(i-j)\right)$, T is the time period, $\Delta T_u(i-j)$ is a time difference from a first response and a last acknowledgement within a $(i\text{-}j)^{th}$ transaction unit, $P_u(i-j)$ is a total amount of data exchanged during the $(i\text{-}j)^{th}$ transaction unit, and $N(i)$ is a largest integer, such that $\sum_{j=0}^{N(i)-1}\Delta T_u(i-j)<T'$.

8. The method of claim 1, wherein act (1) is performed by the server according to a formula:

$$BR(i)=\frac{1}{T'}\left[BR(i-1)\cdot\left(T'-\Delta T_u(i)\right)+P_u(i)\right],$$

where BR(i) is a bit rate at an index time i, $T'=Min\left(T,\sum_{j=0}^{i}\Delta T_u(i-j)\right)$, T is the time period, $\Delta T_u(i)$ is a time difference from a first response and a last

acknowledgement within an i^{th} transaction unit, and $P_u(i)$ is a total amount of data exchanged during the i^{th} transaction unit.

9. The method of claim 1, wherein act (1) is performed on the client and a respective one of the time durations is an amount of time from a beginning of a transmission of a first request, from the client, within the respective transaction unit to a time of a receipt, by the client, of a last response within the respective transaction unit.

10. The method of claim 9, further comprising:

(2) reporting a bit rate to the server from the client, the bit rate being based on a measurement obtained during act (1).

11. The method of claim 10, further comprising:

(3) adapting, by the server, of content to be sent to the client based on the bit rate reported during act (2).

12. The method of claim 11, wherein act (3) comprises adapting a type of the content to be sent to the client from the server.

13. The method of claim 1, wherein act (1) is performed by the client according to a formula:

$$BR(i)=\frac{1}{T'}\left[\left(\sum_{j=0}^{N(i)-1}P_u(i-j)\right)+\left(P_u(i-N(i)\cdot\left[\frac{T'-\sum_{j=0}^{N(i)-1}\Delta T_u(i-j)}{\Delta T_u(i-N(i)}\right]\right)\right],$$

where BR(i) is a bit rate at an index time i, $T'=Min\left(T,\sum_{j=0}^{i}\Delta T_u(i-j)\right)$, T is the time period, $\Delta T_u(i-j)$ is a time difference from a first request sent from the client and a last

response received by the client from the server within a *(i-j)*th transaction unit, $P_u(i-j)$ is a total amount of data exchanged during the *(i-j)*th transaction unit, and *N(i)* is a largest integer, such that $\sum_{j=0}^{N(i)-1} \Delta T_u(i-j) < T'$.

14. The method of claim 1, wherein act (1) is performed by the client according to a formula:

$$BR(i) = \frac{1}{T'}\left[BR(i-1)\cdot\left(T'-\Delta T_u(i)\right)+P_u(i)\right],$$

where BR(i) is a bit rate at an index time i, $T' = Min\left(T, \sum_{j=0}^{i} \Delta T_u(i-j)\right)$, T is the time period, $\Delta T_u(i)$ is a time difference from a first request sent from the client and a last response received by the client from the server within an i^{th} transaction unit, and $P_u(i)$ is a total amount of data exchanged during the i^{th} transaction unit.

15. The method of claim 10, wherein the bit rate is reported in a form of a range of bit rates.

16. The method of claim 10, wherein the bit rate is reported in a form of an exact bit rate.

17. The method of claim 10, wherein the bit rate is reported in a form of one of a plurality of types, each type reflecting a relative speed of the bit rate.

18. The method of claim 10, wherein act (1) is performed at an application level within the client, such that a perceived bit rate is measured for a plurality of applications executing on the client.

19. The method of claim 18, wherein the reporting of the bit rate to the server is performed for each of the plurality of applications.

20. The method of claim 19, further comprising:

setting an amount of bandwidth desired for at least one of the applications; and

reserving, by the server, the amount of bandwidth requested by the at least one of the applications.

21. The method of claim 20, further comprising:

detecting, by the client, when one of the applications is inactive for a specified period of time;

reporting, by the client to the server, that one of the applications is inactive when the detecting determines that the one of the applications is inactive for the specified period of time; and

reallocating, by the server, the amount of the bandwidth to other applications after receiving a report from the reporting.

22. A machine-readable medium having recorded thereon instructions for a processor, the instructions comprising:

(1) measuring a number of bits transmitted between a client and a server over a time period, wherein:

the number of bits measured are those included only within each of a plurality of transaction units, and

the time period is a sum of time durations of each of the transaction units.

23. The machine-readable medium of claim 22, wherein act (1) is configured to be performed on the server and a respective one of the time durations is an amount of time from a beginning of a transmission, from the server, of a first response within the

respective transaction unit to a time of a receipt, by the server, of a last acknowledgement within the respective transaction unit.

24. The machine-readable medium of claim 23, further comprising:

(2) adapting, by the server, of content to be sent to the client based on a measurement determined during act (1).

25. The machine-readable medium of claim 22, wherein act (1) is configured to be performed by the server according to a formula:

$$BR(i)=\frac{1}{T'}\left[\left(\sum_{j=0}^{N(i)-1}P_u(i-j)\right)+\left(P_u(i-N(i))\cdot\left[\frac{T'-\sum_{j=0}^{N(i)-1}\Delta T_u(i-j)}{\Delta T_u(i-N(i))}\right]\right)\right],$$

where BR(i) is a bit rate at an index time i, $T'=Min\left(T,\sum_{j=0}^{i}\Delta T_u(i-j)\right)$, T is the time period, $\Delta T_u(i-j)$ is a time difference from a first response and a last acknowledgement within a $(i-j)^{th}$ transaction unit, $P_u(i-j)$ is a total amount of data exchanged during the $(i-j)^{th}$ transaction unit, and $N(i)$ is a largest integer, such that $\sum_{j=0}^{N(i)-1}\Delta T_u(i-j)<T'$.

26. The machine-readable medium of claim 22, wherein act (1) is configured to be performed by the server according to a formula:

$$BR(i)=\frac{1}{T'}\left[BR(i-1)\cdot\left(T'-\Delta T_u(i)\right)+P_u(i)\right],$$

where BR(i) is a bit rate at an index time i, $T' = Min\left(T, \sum_{j=0}^{i} \Delta T_u(i-j)\right)$, T is the time period, $\Delta T_u(i)$ is a time difference from a first response and a last acknowledgement within an i^{th} transaction unit, and $P_u(i)$ is a total amount of data exchanged during the i^{th} transaction unit.

27. The machine-readable medium of claim 22, wherein act (1) is configured to be performed by the client and a respective one of the time durations is an amount of time from a beginning of a transmission of a first request, from the client, within the respective transaction unit to a time of a receipt, by the client, of a last response within the respective transaction unit.

28. The machine-readable medium of claim 27, further comprising reporting a bit rate to the server from the client, the bit rate being based on a measurement obtained during act (1).

29. The machine-readable medium of claim 22, wherein act (1) is configured to be performed by the client according to a formula:

$$BR(i) = \frac{1}{T'}\left[\left(\sum_{j=0}^{N(i)-1} P_u(i-j)\right) + \left(P_u(i-N(i)\cdot\left[\frac{T' - \sum_{j=0}^{N(i)-1}\Delta T_u(i-j)}{\Delta T_u(i-N(i)}\right]\right)\right],$$

where BR(i) is a bit rate at an index time i, $T' = Min\left(T, \sum_{j=0}^{i} \Delta T_u(i-j)\right)$, T is the time period, $\Delta T_u(i-j)$ is a time difference from a first request sent from the client and a last response received by the client from the server within a $(i\text{-}j)^{th}$ transaction unit,

$P_u(i-j)$ is a total amount of data exchanged during the *(i-j)*th transaction unit, and *N(i)* is a largest integer, such that $\sum_{j=0}^{N(i)-1}\Delta T_u(i-j) < T'$.

30. The machine-readable medium of claim 22, wherein act (1) is configured to be performed by the client according to a formula:

$$BR(i) = \frac{1}{T'}\left[BR(i-1)\cdot\left(T'-\Delta T_u(i)\right)+P_u(i)\right],$$

where BR(i) is a bit rate at an index time i, $T' = Min\left(T, \sum_{j=0}^{i}\Delta T_u(i-j)\right)$, T is the time period, $\Delta T_u(i)$ is a time difference from a first request sent from the client and a last response received by the client from the server within an i^{th} transaction unit, and $P_u(i)$ is a total amount of data exchanged during the i^{th} transaction unit.

31. The machine-readable medium of claim 28, wherein act (1) is performed at an application level within the client, such that a perceived bit rate is measured for a plurality of applications executing on the client.

32. The machine-readable medium of claim 31, wherein the reporting of the bit rate to the server is performed for each of the plurality of applications.

34. The machine-readable medium of claim 33, further comprising:

setting an amount of bandwidth desired for at least one of the applications.

35. The machine-readable medium of claim 34, further comprising:

detecting, by the client, when one of the applications is inactive for a specified period of time; and

reporting, by the client to the server that one of the applications is inactive when the detecting determines that the one of the applications is inactive for the specified period of time.

36. An apparatus for measuring a perceived bit rate between the apparatus and a second apparatus, the apparatus comprising:

a bit rate measurer to measure a number of bits transmitted between the apparatus and the second apparatus over a time period, wherein:

the number of bits measured are those included only within at least one transaction unit, and

the time period is a sum of time durations of each of the at least one transaction unit.

37. The apparatus of claim 36, wherein the apparatus functions as a server and the second apparatus functions as a client and a respective one of the time durations is an amount of time from a beginning of a transmission, from the server, of a first response within the respective transaction unit to a time of a receipt, by the server, of a last acknowledgement within the respective transaction unit.

38. The apparatus of claim 36, further comprising:

an adapter to adapt content to be sent to the second apparatus based on a measurement determined by the bit rate measurer.

39. The apparatus of claim 38 wherein the adapter is arranged to adapt a type of the content to be sent to the second apparatus based on the measurement determined by the bit rate measurer.

40. The apparatus of claim 36, wherein the apparatus is arranged to function as a client, the second apparatus is arranged to function as a server and a respective one of the time durations is an amount of time from a beginning of a transmission of a first request,

from the client, within the respective transaction unit to a time of a receipt, by the client, of a last response within the respective transaction unit.

41. The apparatus of claim 40, further comprising:

a bit rate reporter to report the bit rate to the second apparatus, functioning as the server, the bit rate being based on a measurement determined by the bit rate measurer.

42. The apparatus of claim 41, wherein the bit rate measurer is arranged to measure the bit rate at an application level within the client, such that a perceived bit rate is measured for a plurality of applications executing on the client.

43. The apparatus of claim 42, wherein the bit rate reporter is arranged to report the bit rate to the server for each of the plurality of applications.

44. The apparatus of claim 43, further comprising:

a bandwidth setter to allow a setting of an amount of bandwidth desired for at least one of the applications.

45. The apparatus of claim 44, further comprising:

an inactive application detector to detect when one of the applications is inactive for a specified period of time, the inactive application detector being arranged to report to the server that one of the applications is inactive when the inactive application detector determines that the one of the applications is inactive for the specified period of time.

46. A system for measuring a perceived bit rate, comprising:

a first apparatus configured to function as a server and including an adaptor; and

a second apparatus configured to function as a client comprising:

a bit rate measurer to measure a number of bits transmitted between the second apparatus and the first apparatus over a time period which is at most equal to a predetermined time period, wherein:

the adaptor is configured to adapt content to be sent to the second apparatus based on a measurement determined by the bit rate measurer,

the number of bits measured are those included only within at least one transaction unit, and

the time period is a sum of time durations of each of the at least one transaction unit.

47. The system of claim 46, wherein the bit rate measurer is arranged to measure the bit rate according to a formula:

$$BR(i)=\frac{1}{T'}\left[\left(\sum_{j=0}^{N(i)-1}P_u(i-j)\right)+\left(P_u(i-N(i))\cdot\left[\frac{T'-\sum_{j=0}^{N(i)-1}\Delta T_u(i-j)}{\Delta T_u(i-N(i))}\right]\right)\right],$$

where BR(i) is a bit rate at an index time i, $T'=Min\left(T,\sum_{j=0}^{i}\Delta T_u(i-j)\right)$, T is the time period, $\Delta T_u(i-j)$ is a time difference from a first request sent from the second apparatus and a last response received by the second apparatus from the first apparatus within a *(i-j)th* transaction unit, $P_u(i-j)$ is a total amount of data exchanged during the *(i-j)th* transaction unit, and *N(i)* is a largest integer, such that $\sum_{j=0}^{N(i)-1}\Delta T_u(i-j)<T'$.

48. The system of claim 46, wherein the bit rate measurer is arranged to measure the bit rate according to a formula:

$$BR(i)=\frac{1}{T'}\left[BR(i-1)\cdot\left(T'-\Delta T_u(i)\right)+P_u(i)\right],$$

where BR(i) is a bit rate at an index time i, $T' = Min\left(T, \sum_{j=0}^{i} \Delta T_u(i-j)\right)$, T is the time period, $\Delta T_u(i)$ is a time difference from a first request sent from the second apparatus and a last response received by the second apparatus from the first apparatus within an i^{th} transaction unit, and $P_u(i)$ is a total amount of data exchanged during the i^{th} transaction unit.

49. The system of claim 46, wherein the second apparatus further comprises a bit rate reporter to report the bit rate to the first apparatus, the bit rate being based on a measurement determined by the bit rate measurer.

50. A mobile terminal for sending and receiving data wirelessly, the mobile terminal comprising:

a bit rate measurer to measure a number of bits transmitted between the mobile terminal and a server over a time period, wherein:

the number of bits measured are those included only within each of a plurality of transaction units, and

the time period is a sum of time durations of each of the transaction units.

51. A server for communicating with a client, the server comprising:

a bit rate measurer to measure a number of bits transmitted between the server and the client over a time period;

an adapter to adapt content to be sent to the client based on a measurement determined by the bit rate measurer, wherein:

the number of bits measured are those included only within at least one transaction unit,

the time period is a sum of time durations of each of the at least one transaction unit,

a respective one of the time durations is an amount of time from a beginning of a transmission, from the server, of a first response within the respective transaction unit to a time of a receipt, by the server, of a last acknowledgement within the respective transaction unit, and

the bit rate measurer is configured to measure the bit rate according to a formula:

$$BR(i) = \frac{1}{T'}\left[BR(i-1)\cdot\left(T'-\Delta T_u(i)\right)+P_u(i)\right],$$

where BR(i) is a bit rate at an index time i, $T' = Min\left(T, \sum_{j=0}^{i}\Delta T_u(i-j)\right)$, T is the time period, $\Delta T_u(i)$ is a time difference from a first response and a last acknowledgement within an i^{th} transaction unit, and $P_u(i)$ is a total amount of data exchanged during the i^{th} transaction unit.